

WHAT IS CLAIMED IS:

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1. An ink jet recording head comprising:  
a flat substrate having an end face and front and  
back flat main surfaces having a larger area as compared  
5 to the end face,

an energy generating member for generating energy  
to be utilized to discharge the ink from a discharge port  
formed on the front flat main surface side of the  
substrate,

10 a wiring electrode connected to the energy  
generating member formed on the front flat main surface  
of the substrate, and

a connection electrode, connected to the wiring  
electrode, for receiving an electrical signal supplied  
15 from the outside of the substrate,

wherein the connection electrode is provided on  
another surface different from the front and back flat  
main surfaces of the substrate.

20 2. The ink jet recording head according to claim  
1, wherein the substrate is made of a single crystal Si  
material; and the surface of the Si material is  
insulating and the other surface thereof is formed by  
anisotropic etching.

25 3. The ink jet recording head according to claim  
2, wherein the substrate is thin in a stepwise form in

the vicinity of the end face.

4. The ink jet recording head according to claim  
3, wherein the other surface is a plane parallel with the  
5 front flat main surface of the substrate.

5. The ink jet recording head according to claim  
2, wherein the other surface is a plane inclined at an  
angle of about  $54^\circ$  to the front flat main surface of the  
10 substrate.

6. The ink jet recording head according to claim  
1, wherein the other surface is a flat end face having an  
angle of about  $90^\circ$  to the front flat main surface of the  
15 substrate.

7. The ink jet recording head according to claim  
1, wherein the energy generating member is an  
electrothermal converting element for generating thermal  
20 energy.

8. The ink jet recording head according to claim  
1, wherein the discharge port is disposed so as to face  
the energy generating member.

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9. An ink jet recording apparatus comprising:  
an ink jet recording head having:

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a flat substrate having an end face and front and back flat main surfaces having a larger area as compared to the end face,

an energy generating member for generating energy  
5 to be utilized to discharge the ink from a discharge port formed on the front flat main surface side of the substrate,

a wiring electrode connected to the energy generating member formed on the front flat main surface  
10 of the substrate, and

a connection electrode, connected to the wiring electrode, for receiving an electrical signal supplied from the outside of the substrate, the connection electrode being provided on another surface different  
15 from the front and back flat main surfaces of the substrate; and

a member on which the ink jet recording head is mounted.

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